[P. 164-C]

that the caterpillar turns into a butterfly." 000

The forest throughout is interlaced with 133
rivers and streams, and the terrain is gently un- 182
dulating. These rivers, and the larger of the [166]
streams, seem to form effective natural bound- [823]
aries and may well influence migratory ten- [484]
dencies, as the Pygmy both dislikes large ex-
panses of water and lacks the knowledge of how
to bridge them. Reports of journalists and [491]
others of Pygmy bridge-building activities [177]
(Cotlow, 1956) probably result from recent
attempts, by both villagers and European
movie makers, to teach the Pygmies how to
build swing bridges. Putnam (1948, 325) asserts
that the Pygmy probably never has to go more
than 100 yards to find water. Temperatures 132 •
throughout the year vary only between a low of
70° F. at night and a possible high of 80° F.
during the day. The forest varies with respect 137
to underbrush but on the whole is unimpeded
virgin growth, with a carpet of leaf mold be-
tween the trees. Where villagers have made a
clearing, however, there is thickly tangled
undergrowth.

1: Turnbull E-4. 5 (1951-1955) 1965 FO4 Pygmies FO4
Mbuti

[NET HUNTERS]

[P. 237-C]

the basic necessities of life. No seasonal change involves them in any significant change of activity (except possibly the honey season, when game hunting may be abandoned). The economy of the Mbuti further militates against elaborate ritual by preventing the easy manufacture of ritual trappings and by not allowing for any substantial form of sacrifice. Nor is it possible to provide time and men for ritual specialization. This much applies throughout the Ituri. However, the net hunters, by their hunting techniques, are assured of a larger and steadier supply of game than the archers. Nevertheless, crises occur. The Mbuti, for instance, are frequently beset with the tempestuous rainstorms that sweep the forest in the afternoons and, more rarely, during the night or early morning. Putnam (1948, 338) points out that these storms not only cause physical discomfort in the hunting camp, where huts may become flooded and the clearing so swamped in mud that the whole camp must be moved, but they also prevent hunting and bring death through lightning or through causing dead branches to fall on people. Putnam writes: "No other element in their life causes so much disturbance or upsets them so profoundly" (1948, 338).

2: Turnbull E-5 (1951-1958) 1965 PO4 Pygmies PO4
Mbuti

pure hunting and gathering economy at work not only side by side with, but in opposition to, a cultivation economy. With the pygmoid Twa and Tswa, and possibly only excepting a few small groups in the Gabon and among the Ubangi Binga pygmies, the rest of the population of pygmy hunters and gatherers has become largely dependent for food upon cultivation, either by adopting it themselves or by entering into symbiosis with neighboring village farmers. The Mbuti solution to the contact situation is very different, and so it is in its contemporary context that we study it; any light the study may throw on an earlier form of pygmy society is incidental.

The habitat of the Mbuti is the Ituri Forest. This is a primary rain forest that runs across the equator from the fringes of the Saharan desert, in the north, into the Kivu mountains, in the south. To the east it is bounded clearly by a succession of lakes (Lake Albert, Lake Edward and Lake Kivu) but to the west the boundary is less definable, the forest thinning out as it approaches the Congo River's commercial centers. Effectively, the Mbuti occupy only the dense forest where the migration of game and the nature of vegetation have alike been virtually unaffected by outside influences. Their forest home, some 50,000 square miles in extent, is traversed by a number of roads built, for the most part, since the 1930's, but the purpose of the roads has been merely for transport and has not led to any significant exploitation of the forest, which in most places comes right to the very edge of the roadway (see Map 4).[1]

There are a number of significant features concerning the forest that have to be taken into account. In general it is considered as generous and friendly from the point of view of the Mbuti hunters and gatherers, and as niggardly and hostile from the point of view of the villager cultivators.

For example, the forest is, in most places, gently undulating, though even the mountainous sections in the east and in the south are as thickly wooded at their highest points as at the lowest. In all the territory to the north of the Kivu mountains the average height above sea level is somewhere around a thousand meters. This height, together with the over-all denseness of the forest, and an almost daily rainfall that averages from 70 to 80 inches per year, makes the temperatures within the forest remain remarkably constant and agreeable, seldom departing far from either side of 80° F., never below 70° or above 90°. The relative humidity is fairly constant at 95 per cent.

[1] [see page 319 -- Analyst]

2: Turnbull E-5 (1951-1958) 1965 FO4 Pygmies FO4
Mbuti

132 Where in the villages, and in the plantations that surround them, the midday temperatures soar well into the nineties, and the ground is covered with a dry, choking dust that quickly turns to mud, in the shade of the forest the world is cool and fresh, with only rare places, such as along river banks or at salt licks, where sunlight reaches the
136 ground without first being filtered through a leafy roof. Also from the point of view of comfort, and of health, where village conditions lead to gatherings of flies and mosquitoes, these disease bearers are seldom if ever seen in the depths of the forest, except at such sites as are
[186] easily avoided. The Mbuti frequently compare their lot, in these respects, with that of the villagers, who in turn grudgingly admit to some advantages of forest life.

312 Another important contrast between forest and village life is in the water supply. The forest is interlaced with innumerable streams, any of which can be drunk from with impunity. A hunting camp is always located near a stream, but never stays in the one vicinity long enough to foul the water. A village remains in the same location, however, for three years or so, and the local water supply invariably becomes polluted. The villagers have some resistance to infection, but the Mbuti often have none and quickly become sick if they stay too long in a village.

136 But it is with regard to food even more than shelter or water that
262 the forest seems to favor the Mbuti. Throughout the year, without fail, there is an abundant supply of game and of vegetable foods. There are half a dozen different kinds of antelope that are particularly abundant, apart from supplementary sources of meat such as birds,
[137] monkeys, chimpanzees, and divers grubs and insects. The forest also supplies a number of edible roots, notably the sweet *itaba*, and many different varieties of mushrooms, nuts, berries and fruits. All the latter may vary in abundance the one from the other, according to the time of year, but throughout the year at any one time there will be an ample supply, in both quantity and variety.

262 The only truly seasonal food in the forest economy of the Mbuti is honey, and it is of major importance in the diet. It is also of major
[621] importance as a focal point in the constant process of fission and fusion that characterizes Mbuti society.

778 The apparent benevolence of the forest towards the Mbuti extends still further. The materials for the making of shelter, clothing, and all other necessary items of material culture are all to hand at a mo-
[313] ment's notice. Firewood, equally, is everywhere in abundance. It is

2: Turnbull E-5 (1951-1958) 1965 FO4 Pygmies FO4
Mbuti
Congo-Kinshasa FO1

The villagers, like the Mbuti, find themselves in a very personal relationship with the forest, but a very different one. The forest surrounds them on all sides, but they do not live in it or by it, only despite it. Their initial act is one of destruction, the cutting down of the forest to make way for village and plantation which in turn are destroyed in the final act. The hostility is mutual, as the villagers see it. They have to fight not only the forest itself, but also the creatures that live in it. Elephants, leopards, baboons and Mbuti, all are a menace to life and livelihood. A whole plantation can be destroyed in a few hours by even a modest sprinkling of elephants. The excessive and sometimes erratic rainfall can cause hunger for a whole season. Baboons and Mbuti come in the night and steal the ripening fruit. Leopards prey on the few scrawny goats and chickens the villagers manage to raise.

As for the Mbuti, so for the villagers is the forest an entity to be reckoned with, upon which life and death depend; it is also an entity that is natural and supernatural. But instead of acceding to the natural, the villagers with their superior technology combat it; and instead of respecting the supernatural in the sense that the Mbuti respect it, the villagers oppose it with fear, mistrust and occasional hate. They people the forest with evil spirits, and they fill their lives with magic, witchcraft and a belief in sorcery.

The forest achieves the establishment of two virtually irreconcilable systems of values. It further determines, for both Mbuti and villagers, a certain degree of nomadism, and it tends to fragment large populations into small, relatively isolated bands or villages. For the Mbuti the forest merely indicates natural boundaries, such as valleys, ridges, rivers, caves and so forth, within which a band can conveniently roam at will throughout the years, economically self-sufficient. Within that nomadic framework there is an enormous sense of permanence and of territory. But for the villagers the forest announces, at the end of every three years or so, that the village must pack up and move, it does not much matter where. The move will inevitably bring the village into renewed conflict with the forest, and may well bring it into conflict with a neighboring village which has also been forced to move. In spite of the vast size of the forest and its small population, the villagers are unwilling to go off entirely on their own. At the present time they move up and down the long road that connects Stanleyville with Irumu, or Wamba with Nia-Nia and Mambasa. Formerly it seems that villages were similarly stretched out along recognized trails, and seldom moved away from them. On any given trail, or road, the number of suitable sites for a semi-permanent village is limited, but fric-

3: Turnbull E-5 (1951-1958) 1962 FO4 Pygmies FO4
Mbuti

Anyone who has stood in the silent emptiness of a tropical rain forest must know how Stanley and his followers felt, coming as they all did from an open country of rolling plains, of sunlight and warmth. Many people who have visited the Ituri since, and many who have lived there, feel just the same, overpowered by the heaviness of everything—the damp air, the gigantic water-laden trees that are constantly dripping, never quite drying out between the violent storms that come with monotonous regularity, the very earth itself heavy and cloying after the slightest shower. And, above all, such people feel overpowered by the seeming silence and the age-old remoteness and loneliness of it all.

But these are the feelings of outsiders, of those who do not belong to the forest. If you *are* of the forest it is a very different place. What seems to other people to be eternal and depressing gloom becomes a cool, restful, shady world with light filtering lazily through the tree tops that meet high overhead and shut out the direct sunlight—the sunlight that dries up the non-forest world of the outsiders and makes it hot and dusty and dirty.

Even the silence is a myth. If you have ears for them, the forest is full of sounds—exciting, mysterious, mournful, joyful. The shrill trumpeting of an elephant, the sickening cough of a leopard (or the hundred and one sounds that can be mistaken for it), always makes your heart beat a little unevenly, telling you that you are just the slightest bit scared, or even more. At night, in the honey season, you hear a weird, long-drawn-out, soulful cry high up in the trees. It seems to go on and on, and you wonder what kind of creature can cry for so long without taking breath. The people of the forest say it is the chameleon, telling them that there is honey nearby. Scientists will tell you that chameleons are unable to make any such sound. But the forest people of faraway Ceylon also know the song of the chameleon. Then in the early morning comes the pathetic cry of the pigeon, a plaintive cooing that slides from one note down to the next until it dies away in a soft, sad, little moan.

B: Turnbull E-5 (1951-1958) 1962 FO4 Pygmies FO4
Mbuti

361 beautiful parts of the whole forest for me. This is partly because of
114 what happened there, but also because it is one of the places where the forest is at its gentlest and kindest. Even when we left, after a month of heavy rains had turned the campsite into a morass of mud, it was still beautiful, and much as the Pygmies hate a muddy camp they were reluctant to leave. Now, however, all was still green and fresh.

137 Elsewhere the forest can be severe, particularly in the mountain-
132 ous regions; and in many places it is overwhelming in its immensity. The leafy roof where the trees join together can be so far above that you feel as small and insignificant as the other animals roaming the ground below, depending on the forest for life. And at times it can be so powerful that it is frightening. When it whips itself into a fury, conjuring up rain and thunder and lightning, it turns small streams into raging torrents and sends heavy branches or even whole trees crashing down, some of them with trunks as thick as houses, destroying the living trees that stand in their way.

361 But even in a storm Apa Lelo was gentle and kind and protective.
137 Here, somehow, one felt superior to the other animals of the forest. At the far end of the camp, just beyond the hillock where Kenge had said our house was to be built, a path led off to the left through a glade where the smell of leaf mold was rich and cool and moist.
[136] Termites built their nests there, elfin huts of clay with funny mushroom-shaped roofs; small animals scampered about below and birds fluttered lazily overhead. The world at Apa Lelo was full of delicate colors and shades and whispering sounds, and up in the highest branches orchids shyly hid their delicate heads among the moss.

133 This glade was almost an island, as the Lelo swept around it, all
[361] but encircling the camp. The Lelo, the river the Pygmies loved above all others, widened out at the end of its curve into a broad shallow stream, a hundred feet or so across, clear and rippling. When the water was low a bank of shingle rose in the center. In the middle

3: Turnbull E-5 (1951-1958) 1962 FO4 Pygmies FO4
Mbuti

work. Then she took the leaves we had collected and slit the stalks toward the end, like clothespins, hooking two or three of them together. When she had enough she started hanging them on the framework like tiles, overlapping each other and forming a waterproof covering. There were leaves left over when she had finished, so she let other women take them for their houses.

Everyone was working at something, and all were chattering and making fun of the late-comers who had not yet finished leafing their huts, saying how wet they were going to get when the rain came. But I noticed that those who had already finished, like Masamba, even went back to the forest to cut more wood and leaves to help the lazy stragglers who had spent too much time gathering food and eating it on the way in. Sometimes there were as many as four women working on one hut, some hanging leaves from the outside, working upward, others preferring to work from the inside, pushing the leaves through the lattice and working from the top down. Once in a while there was a loud wail as some playful child got in the way and was soundly slapped by his mother.

Just before dusk there was a sudden darkening and a wind swept through the tree tops making leaves and small branches fall to the ground, spinning and fluttering lightly. Then with a sudden hissing sound, loud and ominous, the sky seemed to open and the rain came pouring down. In the villages, the rain comes down so hard that it can almost hurt you, stinging the skin and blowing into the eyes and nose and mouth, but in the forest its fall is broken by the trees and by the time it reaches the ground it has spent its energy.

There were angry shouts from the men as the lightning flashed and the thunder rumbled on and on, and they peered anxiously from the tiny entrances to their huts to see when it was going to end. If it went on too long it would spoil the hunting for tomorrow. My hut was filled with the bachelors, all of whom Kenge had grandly invited in. He explained that they were too old to sleep with their parents

and, not being married, had no huts of their own. We had brought our fire into the hut when the rain started, and with the heat of that and of about fifteen bodies I was nearly suffocated. Every now and then the rain found its way through the leaves above and sent a tiny waterfall cascading to the floor. Then someone would stand up and inspect the roof carefully, decide which leaf should be moved, and pushing his fingers through the lattice adjust it. If he moved the wrong leaf it started a leak in another place, bringing howls of annoyance from whoever was beneath. Kenge said it was always like this with a new hut, that was why it was so bad not to be married. If you were married, naturally your wife would get up when it rained at night and fix the roof. But once the leaves had settled down, not even the hardest rain would come in until the leaves got old and dried out and began to curl. Tomorrow, he said, he would cover the roof with dead wood and branches to hold the leaves flat.

The rain lasted only for half an hour, and as soon as it was over everyone came out of the huts. The fires were built up outside again; the women made a few adjustments to the roofs where they had found bad leaks; the men wandered off idly with their bows and arrows to see if they could find a bird or monkey for the evening meal before it was too dark. The huts steamed as they dried out, and a blue haze of smoke hung above the camp and was colored suddenly with orange and gold and red as the clouds parted and the sun on the invisible horizon sent a last blaze of light across the sky. The birds burst into a final chorus of song, and two women argued loudly with each other as to which should have the rest of the leaves that Masamba had cut to help them.

Everyone was tired from the long day's trek and from the flurry of building camp so quickly, and as soon as it was dark and the evening meal had been eaten we all crept into our huts and went to sleep. Kenge, seeing that I was a little concerned, had turned some of the bachelors out, so there were only nine of us. For an hour the

3: Turnbull E-5 (1951-1958) 1962 FO4 Pygmies FO4
Mbuti

term which could be translated as either "brother" or "sister," and anyone younger is "child," though more often they are just called by name. In this way a Pygmy camp is much less formal than most African societies, where there are not only different terms of address and reference for different degrees of relationship, but also correspondingly different modes of behavior that are enforced at all times.

During the day one Pygmy camp looks much like another. The sun filters down through the trees and brightens the camp with shafts of spiraling light as it catches the columns of smoke drifting lazily upward. This is what makes a camp look so full of life at midday, even when most people are out on the hunt and those that have stayed behind are dozing in the shade of their little leaf huts. The light has a life of its own, and after it has danced down the coils of blue smoke it seems to leap from place to place on the leafy floor of the camp as the trees sway in the breeze high above. And when you listen you hear life in myriad forms all around—birds, monkeys, bees; the rustling of a nearby stream and the never-ending voice of the forest itself. It continually whispers assurances that all is well, that the forest is looking after its children.

In a village the heat of day is unbearably, suffocatingly oppressive, but in the forest it is just warm enough to make you want to stretch out and bask in the dancing, shady sunlight, like other living creatures. But the Pygmies have learned from the animals around them to doze with one eye open, and a sleepy midday camp can become filled in a minute with shouts and yells and tearful protestations as a baby, crawling around this warm, friendly world, gets into a bed of hot ashes, or a column of army ants. In a moment he will be surrounded by angry adults and given a sound slapping, then carried unceremoniously back to the safety of a hut. It does not matter much which hut, because as far as the child is concerned all adults are his parents or grandparents. They are all equally likely to slap him for doing

4: Putnam E-5 (no date) 1948 FO4 Pygmies FO4
Mbuti

The Forest Environment.

133
137
132

The Ituri forest is rolling country, so densely covered with trees that the relief of the landscape is invisible except from the air. It is a primary rain forest; that is, in most of the region it rains every day or every other day, averaging about one half of the days, from four to six in the afternoon—some 180 days a year. The annual rainfall is correspondingly great, about one and a half meters. The temperature is about 70° F. at night, and varies during the day from 75° to 80° F., depending upon whether it is sunny or cloudy. During January and February, the "dry" season, there are many overcast days; during the rest of the year it is either actually raining or else sunny, with quick changes. When the rain comes, it comes suddenly. It may be bright during the earlier part of the day, and then in the afternoon cloud up all at once in thunderheads. For a few minutes high winds rage through the trees, which tremble like grass in a breeze. Rotten branches and even huge trees crack and fall, crash-

132 ing to the ground. The lightning flashes from the somber sky, and thunder rolls and re-echoes, followed by a pelting downpour. Then in an hour or two it will suddenly stop, sometimes for a brief period of sunshine before the dark of night.

137 The forest varies greatly in regard to underbrush. In some spots there is no undergrowth at all, and nothing but leaf mold between the boles of the trees; in others there is a wild tangle of bushes, reeds, and lianas. The densest thickets are found in small patches of secondary growth, where the Negroes have made clearings and then abandoned them. Most of the forest, however, is virgin growth, and unimpeded except for fallen tree trunks.

136 The forest provides game enough
137 for the pygmies, and some to spare for their hosts. Many kinds of wild plants, huge trees, small shrubs, small plants, growing low on the forest floor, bear either edible fruits or medicinal leaves or bark. Many edible fungi are abundant.

133 The forest is also well watered; the

[TEXT CONTINUED ON PAGE 323-A]